



30-015-39640

EOG Resources, Inc.

Eddy County
Elk Wallow 11 State
#9H
OH

Design: OH

PathfinderX & Y Report

15 February, 2012

PATHFINDER[®]
A Schlumberger Company

Company:	EOG Resources, Inc.	Local Co-ordinate Reference:	Well #9H
Project:	Eddy County	TVD Reference:	KB = 25 @ 3146.0usft (Cactus 139)
Site:	Elk Wallow 11 State	MD Reference:	KB = 25 @ 3146 0usft (Cactus 139)
Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Project	Eddy County
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Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Elk Wallow 11 State
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Site Position:		Northing:	418,830.100 usft	Latitude:	32° 9' 3.367 N
From:	Map	Easting:	615,001.000 usft	Longitude:	103° 57' 0.034 W
Position Uncertainty:	0 0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.20 "

Well	#9H
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Well Position	+N/-S	0.0 usft	Northing:	414,287 900 usft	Latitude:	32° 8' 18.289 N
	+E/-W	0.0 usft	Easting:	618,649 900 usft	Longitude:	103° 57' 0.034 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,121.0 usft

Wellbore	OH
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	1/26/2012	7.67	60 05	48,503

Design	OH
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Audit Notes:				
Version:	1.0	Phase:	ACTUAL	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	359 59

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Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1:Single User Db

Survey Program		Date 2/15/2012	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name
100 0	630.0	Gyro #1 (OH)	CB-GYRO-MS
788 0	11,996 0	MWD #1 (OH)	MWD
			Description
			Camera based gyro multishot
			MWD - Standard

MD (usft)	Inc (")	Azi (azimuth) (")	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg ("/100usft)	Northing (usft)	Easting (usft)
0 0	0.00	0.00	0 0	-3,146.0	0 0	0.0	0.0	0.00	414,287.90	618,649.90
100.0	0.41	19.55	100.0	-3,046.0	0.3	0.1	0.3	0.41	414,288.24	618,650.02
200.0	0.39	4.83	200.0	-2,946.0	1.0	0.3	1.0	0.10	414,288.91	618,650.17
300.0	0.44	348.31	300.0	-2,846.0	1.7	0.2	1.7	0.13	414,289.63	618,650.12
400 0	0.30	358.95	400.0	-2,746.0	2.4	0.1	2.4	0.16	414,290.27	618,650.04
500 0	0.68	12.65	500 0	-2,646.0	3.2	0.3	3.2	0.39	414,291.11	618,650.16
600 0	0.59	24.42	600 0	-2,546.0	4.3	0.6	4.3	0.16	414,292.15	618,650.50
630 0	0.74	36.06	630 0	-2,516.0	4.6	0.8	4.5	0.67	414,292.45	618,650.68
788 0	0.18	222.78	788.0	-2,358.0	5.2	1.2	5.2	0.58	414,293.09	618,651.11
973 0	0.09	167.77	973 0	-2,173.0	4.8	1.0	4.8	0.08	414,292.74	618,650.95
1,157.0	1.23	250.03	1,157.0	-1,989.0	4.0	-0.8	4.0	0.66	414,291.92	618,649.12
1,344.0	0.53	224.82	1,343.9	-1,802.1	2.7	-3.3	2.7	0.42	414,290.62	618,646.63
1,529.0	0.62	234.54	1,528.9	-1,617.1	1.5	-4.7	1.6	0.07	414,289.44	618,645.21
1,719.0	0.18	184.78	1,718.9	-1,427.1	0.6	-5.6	0.7	0.27	414,288.54	618,644.35
1,909.0	0.44	177.80	1,908.9	-1,237.1	-0.4	-5.6	-0.3	0.14	414,287.52	618,644.35
2,097 0	0.53	179.57	2,096.9	-1,049.1	-2.0	-5.5	-1.9	0.05	414,285.93	618,644.38
2,284.0	0.70	149.22	2,283.9	-862.1	-3.8	-4.9	-3.8	0.19	414,284.08	618,644.97
2,472 0	0.70	78.56	2,471.9	-674.1	-4.6	-3.2	-4.6	0.43	414,283.32	618,646.69
2,661.0	2.64	108.97	2,660.8	-485.2	-5.8	2.0	-5.8	1.09	414,282.13	618,651.94
2,850 0	1.76	107.43	2,849.7	-296.3	-8.0	8.9	-8.1	0.47	414,279.85	618,658.82
3,039.0	1.41	99.20	3,038.6	-107.4	-9.3	14.0	-9.4	0.22	414,278.61	618,663.89

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Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
3,228.0	0.35	50.37	3,227.6	81.6	-9.3	16.7	-9.4	0.64	414,278.61	618,666.63	
3,416.0	0.18	121.76	3,415.6	269.6	-9.1	17.4	-9.2	0.18	414,278.82	618,667.32	
3,603.0	0.26	103.87	3,602.6	456.6	-9.3	18.1	-9.5	0.06	414,278.56	618,667.98	
3,792.0	0.35	231.29	3,791.6	645.6	-9.8	18.0	-9.9	0.29	414,278.10	618,667.95	
3,981.0	0.18	325.21	3,980.6	834.6	-9.9	17.4	-10.0	0.21	414,277.98	618,667.33	
4,170.0	0.53	257.26	4,169.6	1,023.6	-9.9	16.4	-10.0	0.26	414,278.03	618,666.30	
4,359.0	0.26	226.11	4,358.6	1,212.6	-10.4	15.2	-10.5	0.18	414,277.54	618,665.14	
4,546.0	0.35	267.23	4,545.6	1,399.6	-10.7	14.4	-10.8	0.12	414,277.22	618,664.27	
4,690.0	0.26	244.94	4,689.6	1,543.6	-10.8	13.6	-10.9	0.10	414,277.06	618,663.53	
4,813.0	0.18	285.07	4,812.6	1,666.6	-10.9	13.2	-11.0	0.14	414,276.99	618,663.09	
5,002.0	0.44	238.60	5,001.5	1,855.5	-11.2	12.3	-11.3	0.18	414,276.69	618,662.19	
5,189.0	0.62	203.27	5,188.5	2,042.5	-12.5	11.3	-12.6	0.19	414,275.39	618,661.17	
5,377.0	0.79	212.51	5,376.5	2,230.5	-14.5	10.2	-14.6	0.11	414,273.36	618,660.08	
5,565.0	0.53	273.13	5,564.5	2,418.5	-15.6	8.6	-15.6	0.37	414,272.31	618,658.51	
5,753.0	0.62	257.31	5,752.5	2,606.5	-15.8	6.7	-15.8	0.10	414,272.14	618,656.65	
5,942.0	0.79	288.10	5,941.5	2,795.5	-15.6	4.5	-15.6	0.22	414,272.32	618,654.41	
6,131.0	0.62	324.05	6,130.5	2,984.5	-14.3	2.7	-14.4	0.25	414,273.55	618,652.58	
6,318.0	0.53	309.86	6,317.5	3,171.5	-13.0	1.4	-13.0	0.09	414,274.92	618,651.32	
6,507.0	0.12	350.35	6,506.5	3,360.5	-12.2	0.7	-12.2	0.24	414,275.68	618,650.61	
6,697.0	0.09	191.62	6,696.5	3,550.5	-12.2	0.6	-12.2	0.11	414,275.73	618,650.55	
6,885.0	0.09	287.01	6,884.5	3,738.5	-12.3	0.5	-12.3	0.07	414,275.63	618,650.38	
7,072.0	0.44	18.48	7,071.5	3,925.5	-11.5	0.6	-11.6	0.24	414,276.35	618,650.47	
7,227.0	3.52	34.36	7,226.4	4,080.4	-7.1	3.4	-7.1	2.00	414,280.85	618,653.34	
KOP - 7227.0 'MD, 7226.4 'TVD, -7.1 'N, 3.4 'E'											
7,259.0	6.68	17.71	7,258.2	4,112.2	-4.5	4.6	-4.5	10.80	414,283.43	618,654.46	
7,290.0	11.34	9.21	7,288.8	4,142.8	0.3	5.6	0.2	15.59	414,288.16	618,655.50	
7,322.0	17.24	6.17	7,319.8	4,173.8	8.1	6.6	8.0	18.58	414,295.99	618,656.51	

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Well:	#9H	North Reference:	Grd
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
7,354.0	22.51	5.69	7,349.9	4,203.9	18.9	7.7	18.8	16.48	414,306.80	618,657.63	
7,385.0	26.03	5.47	7,378.2	4,232.2	31.6	9.0	31.5	11.36	414,319.48	618,658.87	
7,417.0	28.75	4.77	7,406.6	4,260.6	46.2	10.3	46.2	8.56	414,334.14	618,660.18	
7,448.0	30.86	3.83	7,433.5	4,287.5	61.6	11.4	61.5	6.97	414,349.51	618,661.33	
7,480.0	32.89	1.94	7,460.7	4,314.7	78.5	12.3	78.4	7.07	414,366.38	618,662.17	
7,511.0	35.96	359.78	7,486.2	4,340.2	96.0	12.5	95.9	10.66	414,383.90	618,662.42	
7,543.0	39.57	358.02	7,511.5	4,365.5	115.6	12.1	115.5	11.77	414,403.49	618,662.03	
7,575.0	41.68	356.93	7,535.8	4,389.8	136.4	11.2	136.3	6.96	414,424.30	618,661.11	
7,606.0	43.88	356.45	7,558.6	4,412.6	157.4	10.0	157.3	7.17	414,445.32	618,659.89	
7,637.0	47.40	356.06	7,580.2	4,434.2	179.5	8.5	179.5	11.39	414,467.43	618,658.44	
7,669.0	50.91	356.25	7,601.1	4,455.1	203.7	6.9	203.6	10.98	414,491.58	618,656.82	
7,699.0	52.67	355.87	7,619.7	4,473.7	227.2	5.3	227.2	5.95	414,515.10	618,655.20	
7,731.0	56.37	356.67	7,638.3	4,492.3	253.2	3.6	253.2	11.74	414,541.10	618,653.51	
7,762.0	60.23	357.48	7,654.6	4,508.6	279.5	2.3	279.5	12.65	414,567.43	618,652.17	
7,793.0	62.17	357.27	7,669.5	4,523.5	306.7	1.0	306.7	6.29	414,594.57	618,650.92	
7,825.0	64.72	357.60	7,683.8	4,537.8	335.3	-0.3	335.3	8.02	414,623.16	618,649.64	
7,857.0	68.76	358.47	7,696.4	4,550.4	364.6	-1.3	364.6	12.87	414,652.54	618,648.64	
7,888.0	72.81	359.29	7,706.6	4,560.6	393.9	-1.8	393.9	13.30	414,681.80	618,648.07	
7,920.0	75.53	359.22	7,715.4	4,569.4	424.7	-2.2	424.7	8.50	414,712.58	618,647.67	
7,951.0	78.08	359.53	7,722.4	4,576.4	454.9	-2.6	454.9	8.28	414,742.76	618,647.34	
7,982.0	80.46	359.57	7,728.2	4,582.2	485.3	-2.8	485.3	7.68	414,773.21	618,647.10	
8,014.0	82.92	359.53	7,732.8	4,586.8	517.0	-3.0	517.0	7.69	414,804.87	618,646.85	
8,046.0	85.38	359.37	7,736.1	4,590.1	548.8	-3.4	548.8	7.70	414,836.70	618,646.55	
8,075.0	87.41	359.61	7,737.9	4,591.9	577.7	-3.6	577.8	7.05	414,865.64	618,646.29	
8,106.0	88.55	359.19	7,739.0	4,593.0	608.7	-3.9	608.7	3.92	414,896.62	618,645.97	
8,137.0	89.78	359.32	7,739.5	4,593.5	639.7	-4.3	639.7	3.99	414,927.61	618,645.56	

LP - 8137.0 'MD, 7739.5 'TVD, 639.7 'N, -4.3 'E

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Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

Survey											
MD' (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)	
8,169.0	90.04	359.22	7,739.5	4,593.5	671.7	-4.7	671.7	0.87	414,959.61	618,645.15	
8,262.0	90.92	0.02	7,738.7	4,592.7	764.7	-5.4	764.7	1.28	415,052.60	618,644.54	
8,357.0	92.24	0.99	7,736.1	4,590.1	859.7	-4.5	859.7	1.72	415,147.56	618,645.37	
8,451.0	91.71	0.17	7,732.9	4,586.9	953.6	-3.6	953.6	1.04	415,241.50	618,646.33	
8,545.0	89.96	359.64	7,731.5	4,585.5	1,047.6	-3.7	1,047.6	1.95	415,335.49	618,646.17	
8,640.0	90.40	358.97	7,731.2	4,585.2	1,142.6	-4.9	1,142.6	0.84	415,430.48	618,645.02	
8,733.0	91.01	359.56	7,730.1	4,584.1	1,235.6	-6.1	1,235.6	0.91	415,523.46	618,643.82	
8,828.0	89.34	358.81	7,729.8	4,583.8	1,330.5	-7.4	1,330.6	1.93	415,618.45	618,642.47	
8,924.0	90.22	358.85	7,730.1	4,584.1	1,426.5	-9.4	1,426.6	0.92	415,714.43	618,640.51	
9,017.0	90.84	359.05	7,729.3	4,583.3	1,519.5	-11.1	1,519.5	0.70	415,807.41	618,638.81	
9,111.0	91.19	358.91	7,727.6	4,581.6	1,613.5	-12.8	1,613.5	0.40	415,901.38	618,637.14	
9,205.0	92.05	359.10	7,725.0	4,579.0	1,707.4	-14.4	1,707.5	0.94	415,995.32	618,635.50	
9,300.0	92.42	0.02	7,721.3	4,575.3	1,802.3	-15.1	1,802.4	1.04	416,090.25	618,634.77	
9,394.0	91.19	359.49	7,718.3	4,572.3	1,896.3	-15.5	1,896.4	1.42	416,184.20	618,634.37	
9,488.0	91.01	0.00	7,716.5	4,570.5	1,990.3	-15.9	1,990.3	0.58	416,278.18	618,633.95	
9,582.0	88.55	0.01	7,716.9	4,570.9	2,084.3	-15.9	2,084.3	2.62	416,372.17	618,633.96	
9,675.0	88.99	0.19	7,718.8	4,572.8	2,177.2	-15.8	2,177.3	0.51	416,465.15	618,634.12	
9,770.0	89.87	359.43	7,719.8	4,573.8	2,272.2	-16.1	2,272.3	1.22	416,560.14	618,633.81	
9,863.0	89.87	358.68	7,720.0	4,574.0	2,365.2	-17.6	2,365.3	0.81	416,653.13	618,632.28	
9,957.0	91.63	358.08	7,718.8	4,572.8	2,459.2	-20.3	2,459.3	1.98	416,747.08	618,629.62	
10,051.0	91.28	359.04	7,716.4	4,570.4	2,553.1	-22.6	2,553.2	1.09	416,841.02	618,627.26	
10,144.0	89.52	0.58	7,715.7	4,569.7	2,646.1	-23.0	2,646.2	2.51	416,934.01	618,626.95	
10,239.0	90.48	0.41	7,715.7	4,569.7	2,741.1	-22.1	2,741.2	1.03	417,029.00	618,627.77	
10,334.0	90.75	0.31	7,714.7	4,568.7	2,836.1	-21.5	2,836.2	0.30	417,124.00	618,628.37	
10,428.0	91.71	0.72	7,712.7	4,566.7	2,930.1	-20.7	2,930.1	1.11	417,217.97	618,629.21	
10,523.0	90.31	359.81	7,711.0	4,565.0	3,025.1	-20.2	3,025.1	1.76	417,312.95	618,629.65	
10,617.0	89.60	357.76	7,711.1	4,565.1	3,119.0	-22.2	3,119.1	2.31	417,406.92	618,627.66	

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Well:	#9H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM 5000 1 Single User Db

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	V. Sec (usft)	DLeg (°/100usft)	Northing (usft)	Easting (usft)
10,712.0	90.31	358.19	7,711.2	4,565.2	3,214.0	-25.6	3,214.1	0.87	417,501.86	618,624.30
10,807.0	90.48	357.90	7,710.5	4,564.5	3,308.9	-28.8	3,309.0	0.35	417,596.81	618,621.06
10,900.0	91.36	359.24	7,709.0	4,563.0	3,401.9	-31.2	3,402.0	1.72	417,689.76	618,618.74
10,994.0	92.59	359.60	7,705.8	4,559.8	3,495.8	-32.1	3,495.9	1.36	417,783.70	618,617.79
11,089.0	91.80	359.11	7,702.1	4,556.1	3,590.7	-33.2	3,590.9	0.98	417,878.62	618,616.72
11,184.0	90.57	359.10	7,700.2	4,554.2	3,685.7	-34.7	3,685.8	1.29	417,973.59	618,615.24
11,278.0	93.21	0.01	7,697.1	4,551.1	3,779.6	-35.4	3,779.8	2.97	418,067.53	618,614.51
11,372.0	90.84	0.46	7,693.8	4,547.8	3,873.6	-35.0	3,873.7	2.57	418,161.46	618,614.89
11,466.0	90.04	0.80	7,693.0	4,547.0	3,967.5	-34.0	3,967.7	0.92	418,255.45	618,615.92
11,561.0	91.19	0.98	7,692.0	4,546.0	4,062.5	-32.5	4,062.7	1.23	418,350.43	618,617.40
11,656.0	88.64	1.70	7,692.2	4,546.2	4,157.5	-30.3	4,157.6	2.79	418,445.40	618,619.62
11,751.0	88.99	2.26	7,694.1	4,548.1	4,252.4	-27.0	4,252.5	0.70	418,540.32	618,622.90
11,846.0	89.25	2.50	7,695.6	4,549.6	4,347.3	-23.1	4,347.4	0.37	418,635.23	618,626.85
11,941.0	90.40	3.06	7,695.9	4,549.9	4,442.2	-18.4	4,442.2	1.35	418,730.11	618,631.46
11,996.0	90.40	3.06	7,695.5	4,549.5	4,497.1	-15.5	4,497.1	0.00	418,785.03	618,634.39
BHL - 11996.0 'MD, 7695.5 'TVD, 4497.1 'N, -15.5 'E										

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
7,227.0	7,226.4	-7.1	3.4	KOP - 7227.0 'MD, 7226.4 'TVD, -7.1 'N, 3.4 'E
8,137.0	7,739.5	639.7	-4.3	LP - 8137.0 'MD, 7739.5 'TVD, 639.7 'N, -4.3 'E
11,996.0	7,695.5	4,497.1	-15.5	BHL - 11996.0 'MD, 7695.5 'TVD, 4497.1 'N, -15.5 'E

Checked By: _____	Approved By: _____	Date: _____
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